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and is divided into four subgenera with 35 species of *Drepanium* a number which can be materially reduced; three of *Heterophyllum* and under Section IV. *Pseudo-Raphidostegium* Brotherus finds a new section where we are surprised to meet *S. recurvans* and *S. delicatulus*. This transfer is open to serious question as there seems to be no good reason for not placing these species with their closely related allies in the *Sematophyllaceae* in section *Cupressinopsis* on pp. 1109 and 1110, where their inflated alar cells and rostrate lids properly place them!

The *Plagiotheciae* are subdivided into *Isopterygium* with 22 species; *Plagiothecium* with 16 species; *Catagonium* C. M. with one species from Panama; *Taxithelium* with three species of which *T. planum* occurs in Florida-*Vesicularia* C. M. is maintained as distinct from *Ectropothecium* and *V. amphibolum* and *V. vesicularis* are transferred to this genus.

The *Leucomiaceae* are a small tropical family of two genera; two species of *Lecomium* occur in the West Indies.

The *Sematophyllaceae* contain some questionable decisions. It is surprising to find that *Pterogonidium* C. M. 1897 is described and that *Pterogoniella* (Sch.) Jaeger is dropped entirely, presumably because Jaeger subdivided it into *Meiothecium* and *Potanium*. It is quite correct, however, to separate *Pt. pulchella* from *Meiothecium* where Jaeger placed it and to recognize this as a genus with three West Indian species with *Sauloma*, as used by C. Müller, as a synonym. *Raphidostegium* is maintained with five subgenera and 38 species. *Trichosteleum* includes six species and *Sematophyllum* three species, all West Indian and Central American.

The *Rhegmatodontaceae*, contains *Rhegmatozon* with two Mexican species. The *Brachytheciaceae* are also extensively subdivided including *Homalotheciella* with three North American species, *Homalothecium* with two species, *Pleuropus* with one West Indian species; *Camptothecium* with three subgenera and 13 species; *Scleropodium* with seven species and *Cirriphyllum* which is not completed in this part. New York Botanical Garden.

LICHEN NOTES No. 9.

Parmelia latissima Fée and Two Commonly Associated Species.

G. K. MERRILL.

The lichens described below have for the most part been correlated under the name of *Parmelia latissima* Fée by our American students. This view, apparently sanctioned by Tuckerman's Synopsis, seems to have met all the requirements of our investigators. No explanation is ready at hand to account for Tuckerman's failure to at least record the synonymy for *P. latissima*, and it may be assumed that he considered the distinctions upon which were based *P. coralloidea*, *P. cristifera*, etc. to be ineffective. A comparison of the description here undertaken for these plants will help to a proper comprehension of the group, and supply data for more intelligent identification.

PARMELIA LATISSIMA Fée Essai Cryptog. Suppl. (1837) p. 119.

Reaction K_+^+ crimson, $K(C)$ +cortex alone.

Thallus whitish-glaucous, expanded, orbicular, membranaceous but rigid, appressed but loosely adherent, lobate, the divisions broad, rather radiate, margins sinuous, unbroken at the periphery, where rounded and depressed; centrally uneven and puckered, somewhat imbricate, the borders elevato-decurved; above smooth, opaque or somewhat shining, destitute of soredia, isidia, or cilia; within white; below black and sparsely rhizinose, at the circumference yellowish or brownish and broadly glabrous. Apothecia short pedicellate, cup-shaped, disk reddish, imperforate, margin entire, sometimes incurved exciple smooth or at length scrobiculate. Spores ellipsoid $\frac{8.4-9.2}{15-17}\mu$.

This is a tropical species, but should be found within the southern limits of the United States and in the Central American region. There is no record of its occurrence in Continental North America however, that may be interpreted as applying to the plant here defined.

PARMELIA CORALLOIDEA (Mey. & Flot.) Wainio Etude Bresil I, p. 33; *P. perlata* var. *coralloidea* Mey. & Flot. in Act. Ac. Leop. Nat. Cur. XIX, Suppl. I (1843), p. 219; *P. tinctorum* Despr.; *P. praetervisa* Müll.; *P. perlata* var. *platyloba* Müll.

Reaction K_+^+ , C_+ intense red, Wainio.

Thallus whitish or cinereo-glaucous, sometimes centrally dirty-cinereous, broadly expanded, orbicular, rather appressed but not adherent, lobate, the divisions ample, margins slightly decurved, sinuous, at the periphery rounded or broadly crenate, depressed and plane, centrally confusedly uneven and puckered; above opaque or slightly shining, destitute of soredia, or cilia, but more or less isidiouse; within white; below black, at the circumference yellowish-brown and glabrous, smooth or minutely rugose centrally and here and there slightly rhizinose. Apothecia cup-shaped at length explanate, disk rufescent, continuous or sometimes perforate, the margin commonly entire but sometimes fissured, the exciple smooth or isidiouse. Spores $\frac{11-16}{8-8}\mu$. Invariably smaller than in *P. latissima*. As observed by the writer the greatest length for spores has been 18μ , that for diameter 10μ .

The plant is commonly found on trunks of trees, sometimes on shrubs, and often on fences and palings.

Examined from St. Martinville, La., A. B. Langlois, the specimen having been identified by Nylander as *P. latissima*; in another example from the same locality and collector, issued by Miss Cummings No. 122 L. B. A. as *P. latissima* with the note "differs from the type in being isidiophorous;" Okeefenokee Swamp Ga., L. P. Ricker; Thomasville, Ga., Mrs. Taylor; vicinity of Sanford, Fla., S. Rapp; and Island of Jamaica, Miss C. E. Cummings. Reported from Mexico, Dr. Maury.

The species strongly resembles *P. latissima* in appearance, but may be readily distinguished by the reaction, the isidia, and the smaller spores.

PARMELIA CRISTIFERA Tayl. in Hook. Jour. Bot. 1847, p. 165; *P. latissima* forma *cristifera* (Tay.) Hue Lich. Ex.-Eur. I, p. 105. *P. glaberrima* Krempf. pro maxima parte.

Reaction K_2^+ , C^- , $K(C)^+$ reddish.

Thallus white or whitish-glaucous, expanded, orbicular, membranaceous but rigid, appressed but not adherent, lobate, the divisions broad and rather confusedly radiating, sub-imbricate centrally, at the circumference rounded depressed and plane, the margins there sinuous or faintly crenate, centrally undulate, cristate-ascendent and beset with globose or limbate commonly aggregated soredia; above smooth, opaque or somewhat shining, eciliate and destitute of isidia; within white; below blackish or brownish and sparsely rhizinose, at the circumference paler and glabrous. Apothecia as in *P. latissima* but often explanate, imperforate. Spores in the few fertile examples examined smaller than those for *P. latissima*. On old logs, trunks of trees, fence posts and rocks.

Examined from Jacksonville, Fla., W. W. Calkins; vicinity of Sanford, Fla., S. Rapp; and from the Hawaiian Islands, A. A. Heller.

The distinctiveness of this plant specifically, rests on the reaction elevated margins of the lobes, and the markedly cristate-aggregated soredia. Another factor that serves to separate the species from *P. latissima* is furnished by the failure of our southern collectors to discover anything reconcilable with the latter as here defined.

Rockland, Maine.

LICHENS OF THE MOUNT MONADNOCK REGION, N. H. No. 3.

(See BRYOLOGIST, XI: March and July, 1908).

REGINALD HEBER HOWE, JR.

GENUS; PARMELIA (Ach.) DeNot.

32. PARMELIA PERLATA (L.) Ach. Three fertile specimens, two thus labelled, one marked "perferata." (Fitzwilliam, not uncommon).

33. PARMELIA PERFORATA (Jacq.) Ach. One fertile specimen belongs here.

34. PARMELIA CETRATA Ach. Two specimens, one labelled "*perforata*" belong here (Fitzwilliam, uncommon.).

35. PARMELIA TILIACEA (Hoffm.) Floerk. Two fertile specimens labelled thus, and two fertile specimens labelled "*Parmelia Scorteia*" (included with *tiliacea* by Fries), one fertile specimen at first labelled "*P. Russellii*," also seven fertile specimens unlabelled belong here (Fitzwilliam, common.). All these by chemical criteria show the following results: $K_2^+O^-$, $K(C)^+$ red, which is in no way comparable with the results tabulated by Mr. G. K. Merrill in his recent paper on the genus. (BRY. XI: p. 92; 1908.)

36. PARMELIA BORRERI RUDECTA Tuckerm. One specimen labelled "*P. Russellii* white fibres." Two fertile specimens labelled "*P. Russellii*," and an unlabelled specimen belongs here. (Fitzwilliam, uncommon.)

37. PARMELIA SAXATILIS (L.) Ach. Three sterile specimens, two of which are labeled "*saxatilis*." (One first labelled *omphalodes*.)

38. PARMELIA SAXATILIS SULCATA Nyl. Twelve specimens, two labelled "*P. saxatilis sulcata*" (one had before been labelled "*Physcia caesia* v. *stellata*" and another "*Pyxine Frostii*") belong here. Also one specimen "*P. laevigata*." (Fitzwilliam, common.)